J. HYM. RES.
Vol. 7(1), 1998, pp. 116–117

NOTE

First Chromosome Record for the Family Dryinidae: The Karyotype of *Anteon brevicorne* Dalman (Hymenoptera: Chrysidoidea)

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Though karyotypes of some members of the superfamily Chrysidoidea have been examined during the last few years (Hoshiba and Imai 1993, Gokhman and Quicke 1995, Quicke and Gokhman 1996), the family Dryinidae remains totally untouched by chromosomal investigation. We have studied for the first time chromosome number and karyotype of the dryinid, *Anteon brevicorne* Dalman. Chromosome preparation was obtained from an adult wasp collected from the wild at the Botanical Garden, Moscow State University, Moscow, Russia, in May 1997. Preparation was made according to the previously described protocol (Gokhman and Quicke 1995). Chromosomes were subdivided into four groups—metacentrics, submetacentrics, subtelocentrics and acrocentrics following Levan *et al.* (1964) and Imai *et al.* (1977). The voucher specimen is deposited in the Zoological Museum, Moscow State University, Moscow, Russia.

RESULTS

Eleven well-spread metaphase plates were obtained from the individual studied, all of them having the same diploid chromosome number, $2n = 10$ (Fig. 1). All chromosomes are obviously two-armed and thus arm number (NF) in this species is 20. The karyotype comprises three pairs of submetacentric chromosomes and two pairs of subtelocentric ones. However, all chromosomes differ notably in size, each chromosome pair being at least about 1.5 times longer or shorter than the others. Submetacentrics of the first two pairs are the longest in the set (3–4 μm), those of the third pair are the shortest (0.5 μm), and subtelocentrics are of intermediate length (1–2 μm).

DISCUSSION

The above results, together with accumulated data on chromosomes of the other Chrysidoidea, provide qualitatively new karyotypic information for the superfamily. First, chromosome number of *A. brevicorne* is the lowest in the Chrysidoidea and one of the lowest in all aculeate Hymenoptera. Except for a few ant species, only four predominantly unrelated members of the Aculeata (although two of them belong to the bee genus, *Andrena*) were reported to have n values of 5 or fewer (Goodpasture 1974, Hoshiba and Imai 1993). Second, the chromosome set of *A. brevicorne* is highly asymmetric (White 1973), apart from karyotypes of the other Chrysidoidea, where chromosomes show a continuous gradation in length (see for example Hoshiba and Imai 1993, Fig. 2c and 8c, and Quicke and Gokhman 1996, Fig. 1c). Finally, ranges of variation in chromosome number in all studied families of the Chrysidoidea do not overlap. Specifically, n values of 10–14, 19–21 and 5 were found in the Bethylidae, Chrysididae and Dryinidae respectively. Though it is difficult at present to determine pathways of karyotype evolution in the Chrysidoidea, low chromosome number and

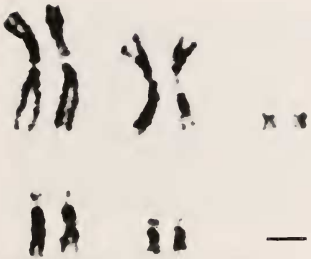

Fig. 1. Karyotype of *Anteon brevicorne*. Scale bar indicates 1 μm.

karyotype structure found in the Dryinidae and perhaps resulted from multiple chromosome fusions suggest that those features may be apomorphic together with the other apomorphies of this specialized group (Brothers and Carpenter 1993). However, further chromosomal investigation of the Dryinidae and other Chrysidoidea will be necessary to confirm this assumption.

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